

Description of *Epitonium yangi* n. sp. (Gastropoda: Epitoniidae) from the East China Sea

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KEYWORDS. Gastropoda, Epitoniidae, *Epitonium*, new species, East China Sea.

ABSTRACT. *Epitonium yangi*, a new species from the East China Sea, is described and compared with similar species from the Indo-Pacific: *Epitonium spyridion* Kilburn, 1985, *E. vestale* (Hinds, 1844), *E. innesi* (Jousseaume, 1912), *E. coutieri* (Jousseaume, 1912) and *E. goldsmithi* (DuShane, 1988).

INTRODUCTION

The East China Sea is a section of the Pacific Ocean bordered on the north by the Yellow Sea, on the east by the Ryukyu and Kyushu Islands, on the south by Taiwan and on the west by China.

A review of the literature on the Epitoniidae, my area of research interest, did not provide much information on epitoniids found in the East China Sea. Given the apparent lack of information on the Epitoniidae occurring in this part of the Pacific, in 2006, when dealers began selling shells that were trawled in the East China Sea, I began to systematically acquire the specimens they were offering for sale in order to compile a report on the members of that family occurring in the region. See Brown (2009: 21) for this report.

In the course of collecting that series of specimens and preparation of the report, a species was recognized as new to science. This new species is described herein.

Abbreviations

ANSP: Academy of Natural Sciences, Philadelphia.
MNHN: Museum national d'Histoire naturelle, Paris
dd: specimen(s) collected dead.

SYSTEMATICS

Family EPITONIIDAE S. S. Berry, 1910

Genus *Epitonium* Röding, 1798

Type species: *Turbo scalaris* Linnaeus, 1758
(Subsequent designation by Suter, 1913)

Epitonium yangi n. sp.

Figs. 1-3

Type material. Holotype ANSP 423044, length 16.1 mm, width 8.4 mm. Paratypes: ANSP 423045, length 11.2 mm, width 5.9 mm, ANSP 423046, length 16.7 mm, width 8.7 mm; ANSP 423047, length 15.3 mm, width 7.9 mm.

Type locality. East China Sea, in 150 m.

Material Examined. East China Sea, trawled, 150 m, sand bottom, 1dd (holotype). East China Sea, trawled, 180 m, 1dd (paratype ANSP 423045). East China Sea, trawled, 1dd (paratype- ANSP 423046). East China Sea, trawled, 180 m, 1dd (paratype ANSP 423047). East China Sea, Zhejiang Province, China, trawled, up to 130 m, 1dd, in the author's collection. East China Sea, trawled, 150 m, 1 dd, in the author's collection.

Distribution. East China Sea, 130-180 m (shell only).

Description. Shell up to 16.7 mm in length, pyramidal (width/length ratio 0.52 to 0.56); 3-3.5 conical, glassy protoconch whorls with dark line below suture; teleoconch of up to 7 convex whorls; sutures deep, narrowly fenestrate. Axial costae thin, low, erect, prosocline, discontinuous, with weak coronation close to suture; 17 to 25 costae on last whorl. Intervals between costae with thin, low, tabulate spiral lirae, narrower than interspaces on abapical whorls. Number of spiral lirae on penultimate whorl ranging from 25 on the holotype (16.1 mm in length), to 20 on first paratype (11.2 mm in length) and 38 on second paratype (16.7 mm in length). On abapical whorls, microscopic axial and spiral threads present in spaces between stronger spiral striae. Umbilicus wide, open; aperture ovate, with a thin peristome; auricle slightly expanded; shell white; operculum unknown.

Remarks. Kilburn (1985: 324) used the subgenus *Asperiscalca* for spirally sculptured species with peaked costae and partial uncoiling that are bulbous and have a widely open umbilicus. *Epitonium yangi* is one of three species from the East China that fit these criteria. The other two species are *E. spyridion* Kilburn, 1985 and *E. vestale* (Hinds, 1844).

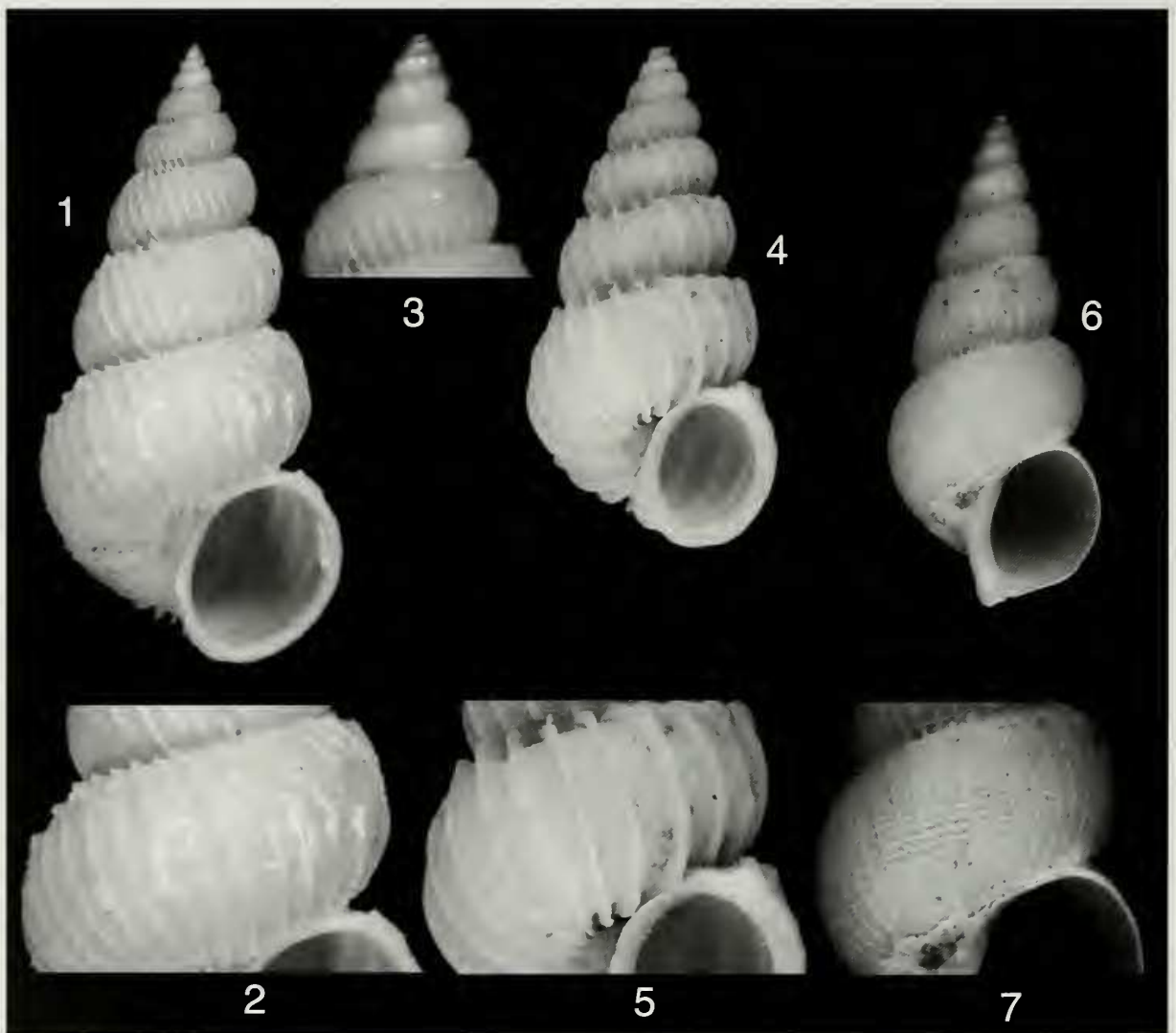
Epitonium yangi can be separated from *E. spyridion* (Figs. 4-5) by the more numerous, thinner costae that are only slightly reflected and that have peaks set closer to the sutures. In addition, the costae on *E. yangi* are discontinuous on the abapical whorls,

whereas on *E. spyridion* the costae are continuous from whorl to whorl. Moreover, in the case of *E. spyridion*, the intercostal spaces are noticeably cancellate due to the combination of axial and spiral lines. This cancellate sculpture is easily seen in Kilburn's photograph of the paratype 1985: 323, fig.147). *Epitonium yangi* has an intercostal sculpture consisting of numerous, fine spiral lines with microscopic axial and spiral threads in the spaces between the spiral lines, resulting in a much finer, less cancellate sculpture compared to the strongly cancellate sculpture in the intercostal spaces of *E. spyridion*. While the three examples of *E. yangi* with an intact protoconch have 3 - 3.5 whorls and a dark line below the suture, the protoconch of *E. spyridion*

has 4.5 whorls, and the dark line is not visible on the protoconch of Kilburn's figured specimens, nor is it mentioned in the description.

Epitonium vestale (Hinds, 1844) (Figs. 6-7), another species with which *E. yangi* can be confused, also occurs in the East China Sea. It can be distinguished from *E. yangi* by being more acuminate, rather than pyramidal, by having thin, erect, rather than prosocline costae and by having strong spiral cords on the abapical whorls, instead of the more numerous, much weaker spiral cords of *E. yangi*.

Two other Indo-Pacific species with somewhat similar shell characters are *E. imesi* (Joussemae, 1912) and *E. coutieri* (Joussemae, 1912) from Aden and Djibouti.



Figures 1-7

1-3. *Epitonium yangi* n. sp., length 16.1 mm, width 8.4 mm, East China Sea, trawled, 150 m, sand bottom, Holotype (ANSP 423044); 4-5. *Epitonium spyridion* Kilburn, 1985, length 10.4 mm, width 5.4 mm, East China Sea, Zhejiang Province, China, trawled up to 130 m. (Brown collection No. 930); 6-7. *Epitonium vestale* (Hinds, 1844), length 10.7 mm, width 4.8 mm, East China Sea, trawled in about 130 to 230 m. (Brown collection No. 900).

Epitonium innesi can be differentiated from *E. yangi* by the continuous costae that have coronations set much further from the suture and give the teleoconch whorls a stepped appearance. This character is evident in the photographs of syntypes at MNHN, shown at :

<http://dsipho.mnhn.fr/malaco/TYPEMBR/epitoniidae/4281.jpg>. Also see Kaicher (1981: card 3077).

Epitonium coutieri has continuous costae similar to those of *E. innesi*, as well as less numerous intercostal spiral cords than *E. yangi*. A photograph of the syntype can be seen at :

<http://dsipho.mnhn.fr/malaco/TYPEMBR/epitoniidae/4233.jpg>.

Epitonium goldsmithi (DuShane, 1988) is more acuminate than *E. yangi* and has a skewed protoconch. See DuShane (1988:268, figs. 3, 4).

Etymology. Named for Hao Yang, a shell dealer from Fujian Province, China who provided the holotype.

ACKNOWLEDGEMENTS

I want to thank Dr. Emilio Garcia, University of Louisiana at Lafayette, who examined examples of the

species described herein and provided me with his comments, Amanda Lawless, ANSP, Philadelphia, PA who photographed the holotype, Patrick Sweeney, Peabody Museum of Natural History, New Haven, CT who photographed the other illustrated specimens, Lawrence Gall, Peabody Museum of Natural History, New Haven, CT who prepared the plate and Bruce Neville, Texas A & M University who provided copies of papers listed in the bibliography.

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